```
3121 actacagggc accgactcat tggtcactca tctgctgaat gtatcctctc aggcaatact
3181 gcccattgga gcacgaagcc gccaatttgt caacgaattc cttgtgggct accccaacc
3241 atcgccaatg gagatttcat tagcaccaac agagagaatt ttcactatgg atcagtggtg
3301 acctaccgct gcaatcttgg aagcagaggg agaaaggtgt ttgagcttgt gggtgagccc
3361 tccatatact gcaccagcaa tgacgatcaa gtgggcatct ggagcggccc cgcccctcag
3421 tgcattatac ctaacaaatg cacgcctcca aatgtggaaa atggaatatt ggtatctgac
3481 aacagaagct tattttcctt aaatgaagtt gtggagttta ggtgtcagcc tggctttgtc
3541 atgaaaggac cccgccgtgt gaagtgccag gccctgaaca aatgggagcc agagttacca
3601 agctgctcca gggtgtgtca gccgcctcca gaaatcctgc atggtgagca taccccaagc
3661 catcaggaca acttttcacc tgggcaggaa gtgttctaca gctgtgagcc tggctatgac
3721 ctcagagggg ctgcgtctct gcactgcaca ccccagggag actggagccc tgaagccccg
3781 agatgtgcag tgaaatcctg tgatgacttc ttgggtcaac tccctcatgg ccgtgtgcta
3841 tttccactta atctccagct tggggcaaag gtgtcctttg tctgtgatga agggtttcgc
3901 ttaaagggca gttccgttag tcattgtgtc ttggttggaa tgagaagcct ttggaataac
3961 agtgttcctg tgtgtgaaca tatcttttgt ccaaatcctc cagctatcct taatgggaga
4021 cacacaggaa ctccctctgg agatattccc tatggaaaag aaatatctta cacatgtgac
4081 ccccacccag acagagggat gaccttcaac ctcattgggg agagcaccat ccgctgcaca
4141 agtgaccctc atgggaatgg ggtttggagc agccctgccc ctcgctgtga actttctgtt
4201 cgtgctggtc actgtaaaac cccagagcag tttccatttg ccagtcctac gatcccaatt
4261 aatgactttg agtttccagt cgggacatct ttgaattatg aatgccgtcc tgggtatttt
4321 gggaaaatgt tctctatctc ctgcctagaa aacttggtct ggtcaagtgt tgaagacaac
4381 tgtagacgaa aatcatgtgg acctccacca gaaccctcca atggaatggt gcatataaac
4441 acagatacac agtttggatc aacagttaat tattcttgta atgaagggtt tcgactcatt
4501 ggttccccat ctactacttg tctcgtctca ggcaataatg tcacatggga taagaaggca
4561 cctatttgtg agatcatatc ttgtgagcca cctccaacca tatccaatgg agacttctac
4621 agcaacaata gaacatcttt tcacaatgga acggtggtaa cttaccagtg ccacactgga
4681 ccagatggag aacagctgtt tgagcttgtg ggagaacggt caatatattg caccagcaaa
4741 gatgatcaag ttggtgtttg gagcagccct cccctcggt gtatttctac taataaatgc
4801 acagctccag aagttgaaaa tgcaattaga gtaccaggaa acaggagttt cttttccctc
4861 actgagatca tcagatttag atgtcagccc gggtttgtca tggtagggtc ccacactgtg
4921 cagtgccaga ccaatggcag atggggggcc aagctgccac actgctccag ggtgtgtcag
4981 ccgcctccag aaatcctgca tggtgagcat accctaagcc atcaggacaa ctttttcacct
5041 gggcaggaag tgttctacag ctgtgagccc agctatgacc tcagaggggc tgcgtctctg
5101 cactgcacgc cccagggaga ctggagccct gaagccccta gatgtacagt gaaatcctgt
5161 gatgacttcc tgggccaact ccctcatggc cgtgtgctac ttccacttaa tctccagctt
5221 ggggcaaagg tgtcctttgt ttgcgatgaa gggttccgat aaaaggcag gtctgctagt
5281 cattgtgtct ggctggaat gaaagccctt tggaatagca gtgttccagt gtgtgaacaa
5341 atcttttgtc caaatcctcc agctatcctt aatgggagac acacaggaac tccctttgga
5401 gatattccct atggaaaaga aatatcttac gcatgcgaca cccacccaga cagagggatg
5461 accttcaacc tcattgggga gagctccatc cgctgcacaa gtgaccctca agggaatggg
5521 gtttggagca gccctgcccc tcgctgtgaa ctttctgttc ctgctgcctg cccacatcca
5581 cccaagatcc aaaacgggca ttacattgga ggacacgtat ctctatatct tcctgggatg
5641 acaatcagct acacttgtga ccccggctac ctgttagtgg gaaagggctt cattttctgt
5701 acagaccagg gaatctggag ccaattggat cattattgca aagaagtaaa ttgtagcttc
5761 ccactgttta tgaatggaat ctcgaaggag ttagaaatga aaaaagtata tcactatgga
5821 gattatgtga ctttgaagtg tgaagatggg tatactctgg aaggcagtcc ctggagccag
5881 tgccaggcgg atgacagatg ggaccctcct ctggccaaat gtacctctcg tgcacatgat
5941 gctctcatag ttggcacttt atctggtacg atcttcttta ttttactcat cattttcctc
6001 tcttggataa ttctaaagca cagaaaaggc aataatgcac atgaaaaccc taagaagtg
6061 gctatccatt tacattctca aggaggcagc agcgttcatc cccgaactct gcaaacaaat
6121 gaagaaaata gcaggtcct tccttgacaa agtactatac agctgaagaa catctcgaat
6181 acaattttgg tgggaaagga gccaattgat ttcaacagaa tcagatctga gcttcataaa
6241 gtctttgaag tgacttcaca gagacgcaga catgtgcact gaagatgct gccccttccc
6301 tggtacctag caaagctcct gcctctttgt gtgcgtcact gtgaaacccc cacccttctg
6361 cctcgtgcta aacgcacaca gtatctagtc aggggaaaag actgcattta ggagatagaa
6421 aatagtttgg attacttaaa ggaataaggt gttgcctgga atttctggtt tgtaaggtgg
```

Fig. 3 (Cont.)

```
6481 tcactgttct tttttaaaat atttgtaata tggaatgggc tcagtaagaa gagcttggaa
6541 aatgcagaaa gttatgaaaa ataagtcact tataattatg ctacctactg ataaccactc
6601 ctaatatttt gattcatttt ctgcctatct tctttcacat atgtgttttt ttacatacgt
6661 acttttcccc ccttagtttg tttccttta ttttatagag cagaaccca gtctttttaa
6721 cagtttagag tgaaatatat gctatatcag tttttacttt ctctagggag aaaaattaat
6781 ttactagaaa ggcatgaaat gatcatggga agagtggtta agactactga agagaaatat
6841 ttggaaaata agatttcgat atcttctttt ttttgagat ggagtctggc tctgtctccc
6901 aggctggagt gcagtggcgt aatctcggct cactgcaacg tccgcctccc g
```

Fig. 3 (Cont.)

Fig. 4A

SEQ. ID NO:5

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MEPPGRRECPFPSWRFPGLLLAAMVLLLYSFSDACEEPPTFEAMELIGKP    50
KPYYEIGERVDYKCKKGYFYIPPLATHTICDRNHTWLPVSDDACYRETCP   100
YIRDPLNGQAVPANGTYEFGYQMHFICNEGYYLIGEEILYCELKGSVAIW   150
SGKPPICEKVLCTPPPKIKNGKHTFSEVEVFEYLDAVTYSCDPAPGPDPF   200
SLIGESTIYCGDNSVWSRAAPECKVVKCRFPVVENGKQISGFGKKFYYKA   250
TVMFECDKGFYLDGSDTIVCDSNSTWDPPVPKCLKVSTSSTTKSPASSAS   300
GPRPTYKPPVSNYPGYPKPEEGILDSLDVWVIAVIVIAIVVGVAVICVVP   350
YRYLQRRKKKGKADGGAEYATYQTKSTTPAEQRG
```

Fig. 4B

SEQ. ID NO:6

```
   1 tctgctttcc tccggagaaa taacagcgtc ttccgcgccg cgcatggagc ctcccggccg
  61 ccgcgagtgt cccttcctt cctggcgctt tcctgggttg cttctggcgg ccatggtgtt
 121 gctgctgtac tccttctccg atgcctgtga ggagccacca acatttgaag ctatggagct
 181 cattggtaaa ccaaaaccct actatgagat tggtgaacga gtagattata agtgtaaaaa
 241 aggatacttc tatatacctc ctcttgccac ccatactatt tgtgatcgga atcatacatg
 301 gctacctgtc tcagatgacg cctgttatag agaaacatgt ccatatatac gggatccttt
 361 aaatggccaa gcagtccctg caaatgggac ttacgagttt ggttatcaga tgcactttat
 421 ttgtaatgag ggttattact taattggtga agaaattcta tattgtgaac ttaaaggatc
 481 agtagcaatt tggagcggta gcccccaat atgtgaaaag gttttgtgta caccacctcc
 541 aaaaataaaa aatggaaaac acacctttag tgaagtagaa gtatttgagt atcttgatgc
 601 agtaacttat agttgtgatc ctgcacctgg accagatcca ttttcactta ttggagagag
 661 cacgatttat tgtggtgaca attcagtgtg gagtcgtgct gctccagagt gtaaagtggt
 721 caaatgtcga tttccagtag tcgaaaatgg aaaacagata tcaggatttg gaaaaaaatt
 781 ttactacaaa gcaacagtta tgtttgaatg cgataagggt ttttacctcg atggcagcga
 841 cacaattgtc tgtgacagta acagtacttg ggatccccca gttccaaagt gtcttaaagt
 901 gtcgacttct tccactacaa aatctccagc gtccagtgcc tcaggtccta ggcctactta
 961 caagcctcca gtctcaaatt atccaggata tcctaaacct gaggaaggaa tacttgacag
1021 tttggatgtt tgggtcattg ctgtgattgt tattgccata gttgttggag ttgcagtaat
1081 ttgtgttgtc ccgtacagat atcttcaaag gaggaagaag aaagggaaag cagatggtgg
1141 agctgaatat gccacttacc agactaaatc aaccactcca gcagagcaga gaggctgaat
1201 agattccaca acctggtttg ccagttcatc ttttgactct attaaaatct tcaatagttg
1261 ttattctgta gtttcactct catgagtgca actgtggctt agctaatatt gcaatgtggc
1321 ttgaatgtag gtagcatcct ttgatgcttc tttgaaactt gtatgaattt gggtatgaac
1381 agattgcctg ctttccctta aataacactt agatttattg gaccagtcag cacagcatgc
1441 ctggttgtat taaagcaggg atatgctgta ttttataaaa ttggcaaaat tagagaaata
1501 tagttcacaa tgaaattata ttttctttgt
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I  G  E  S  T  I  R  C  T  S  D  P  Q  G  N  G  V  W  S  S
P  A  P  R  C  G  I  H  H  H  H  H  H
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Fig. 8A (Cont.)

Fig. 8B

SEQ. ID NO: 14

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                                        ATGACCGTCGCGCGGCCGAGCGTGCCCGCGGCGCTGCCC
CTCCTCGGGGAGCTGCCCCGGCTGCTGCTGCTGGTGCTGTTGTGCCTGCCGGCCGTGTGGGGT
GACTGTGGCCTTCCCCCAGATGTACCTAATGCCCAGCCAGCTTTGGAAGGCCGTACAAGTTTT
CCCGAGGATACTGTAATAACGTACAAATGTGAAGAAAGCTTTGTGAAAATTCCTGGCGAGAAG
GACTCAGTGATCTGCCTTAAGGGCAGTCAATGGTCAGATATTGAAGAGTTCTGCAATCGTAGC
TGCGAGGTGCCAACAAGGCTAAATTCTGCATCCCTCAAACAGCCTTATATCACTCAGAATTAT
TTTCCAGTCGGTACTGTTGTGGAATATGAGTGCCGTCCAGGTTACAGAAGAGAACCTTCTCTA
TCACCAAAACTAACTTGCCTTCAGAATTTAAAATGGTCCACAGCAGTCGAATTTTGTAAAAAG
AAATCATGCCCTAATCCGGGAGAAATACGAAATGGTCAGATTGATGTACCAGGTGGCATATTA
TTTGGTGCAACCATCTCCTTCTCATGTAACACAGGGTACAAATTATTTGGCTCGACTTCTAGT
TTTTGTCTTATTTCAGGCAGCTCTGTCCAGTGGAGTGACCCGTTGCCAGAGTGCAGAGAAATT
TATTGTCCAGCACCACCACAAATTGACAATGGAATAATTCAAGGGGAACGTGACCATTATGGA
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TATTGTACTGTGAATAATGATGAAGGAGAGTGGAGTGGCCCACCACCTGAATGC
TCGAGTCCTAACAAATGCACGCCTCCAAATGTGGAAAATGGAATATTGGTATCTGACAAC
AGAAGCTTATTTTCCTTAAATGAAGTTGTGGAGTTTAGGTGTCAGCCTGGCTTTGTCATG
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TGCTCCAGGGTATGTCAGCCACCTCCAGATGTCCTGCATGCTGAGCGTACCCAAAGGGAC
AAGGACAACTTTTCACCTGGGCAGGAAGTGTTCTACAGCTGTGAGCCCGGCTACGACCTC
AGAGGGGCTGCGTCTATGCGCTGCACACCCCAGGGAGACTGGAGCCCTGCAGCCCCCACA
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CCAGTAAATCTCCAGCTTGGAGCAAAAGTGGATTTTGTTTGTGATGAAGGATTTCAATTA
AAAGGCAGCTCTGCTAGTTACTGTGTCTTGGCTGGAATGGAAAGCCTTTGGAATAGCAGT
GTTCCAGTGTGTGAACAAATCTTTTGTCCAAGTCCTCCAGTTATTCCTAATGGGAGACAC
ACAGGAAAACCTCTGGAAGTCTTTCCCTTTGGAAAAGCAGTAAATTACACATGCGACCCC
CACCCAGACAGAGGGACGAGCTTCGACCTCATTGGAGAGAGCACCATCCGCTGCACAAGT
GACCCTCAAGGGAATGGGGTTTGGAGCAGCCCTGCCCCTCGCTGTGGAATTCTGGGTCAC
TGTCAAGCCCCAGATCATTTTCTGTTTGCCAAGTTGAAAACCCAAACCAATGCATCTGAC
TTTCCCATTGGGACATCTTTAAAGTACGAATGCCGTCCTGAGTACTACGGGAGGCCATTC
TCTATCACATGTCTAGATAACCTGGTCTGGTCAAGTCCCAAAGATGTCTGTAAACGTAAA
TCATGTAAAACTCCTCCAGATCCAGTGAATGGCATGGTGCATGTGATCACAGACATCCAG
GTTGGATCCAGAATCAACTATTCTTGTACTACAGGGCACCGACTCATTGGTCACTCATCT
GCTGAATGTATCCTCTCGGGCAATGCTGCCCATTGGAGCACGAAGCCGCCAATTTGTCAA
CGAATTCCTTGTGGGCTACCCCCCACCATCGCCAATGGAGATTTCATTAGCACCAACAGA
GAGAATTTTCACTATGGATCAGTGGTGACCTACCGCTGCAATCCTGGAAGCGGAGGGAGA
AAGGTGTTTGAGCTTGTGGGTGAGCCCTCCATATACTGCACCAGCAATGACGATCAAGTG
GGCATCTGGAGCGGCCCGGCCCCTCAGTGCATTATACCTAACAAATGCACGCCTCCAAAT
GTGGAAAATGGAATATTGGTATCTGACAACAGAAGCTTATTTTCCTTAAATGAAGTTGTG
GAGTTTAGGTGTCAGCCTGGCTTTGTCATGAAAGGACCCCGCCGTGTGAAGTGCCAGGCC
CTGAACAAATGGGAGCCGGAGCTACCAAGCTGCTCCAGGGTATGTCAGCCACCTCCAGAT
GTCCTGCATGCTGAGCGTACCCAAAGGGACAAGGACAACTTTTCACCCGGGCAGGAAGTG
TTCTACAGCTGTGAGCCCGGCTATGACCTCAGAGGGGCTGCGTCTATGCGCTGCACACCC
CAGGGAGACTGGAGCCCTGCAGCCCCCACATGTGAAGTGAAATCCTGTGATGACTTCATG
GGCCAACTTCTTAATGGCCGTGTGCTATTTCCAGTAAATCTCCAGCTTGGAGCAAAAGTG
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GATTTTGTTTGTGATGAAGGATTTCAATTAAAAGGCAGCTCTGCTAGTTATTGTGTCTTG
GCTGGAATGGAAAGCCTTTGGAATAGCAGTGTTCCAGTGTGTGAACAAATCTTTTGTCCA
AGTCCTCCAGTTATTCCTAATGGGAGACACACAGGAAAACCTCTGGAAGTCTTTCCCTTT
GGAAAAGCAGTAAATTACACATGCGACCCCCACCCAGACAGAGGGACGAGCTTCGACCTC
ATTGGAGAGAGCACCATCCGCTGCACAAGTGACCCTCAAGGGAATGGGGTTTGGAGCAGC
CCTGCCCCTCGCTGTG<u>GAATTC</u>ATCACCATCACCATCACTAAA<u>GATCT</u>

Fig. 8B (Cont.)

Fig. 9A
SEQ ID NO:15

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                            M   T   V   A   R   P   S   V   P   A   A   L   P
        L   L   G   E   L   P   R   L   L   L   L   V   L   L   C   L   P   A   V   W   G
        D   C   G   L   P   P   D   V   P   N   A   Q   P   A   L   E   G   R   T   S   F
        P   E   D   T   V   I   T   Y   K   C   E   E   S   F   V   K   I   P   G   E   K
        D   S   V   I   C   L   K   G   S   Q   W   S   D   I   E   E   F   C   N   R   S
        C   E   V   P   T   R   L   N   S   A   S   L   K   Q   P   Y   I   T   Q   N   Y
        F   P   V   G   T   V   V   E   Y   E   C   R   P   G   Y   R   R   E   P   S   L
        S   P   K   L   T   C   L   Q   N   L   K   W   S   T   A   V   E   F   C   K   K
        K   S   C   P   N   P   G   E   I   R   N   G   Q   I   D   V   P   G   G   I   L
        F   G   A   T   I   S   F   S   C   N   T   G   Y   K   L   F   G   S   T   S   S
        F   C   L   I   S   G   S   S   V   Q   W   S   D   P   L   P   E   C   R   E   I
        Y   C   P   A   P   P   Q   I   D   N   G   I   I   Q   G   E   R   D   H   Y   G
        Y   R   Q   S   V   T   Y   A   C   N   K   G   F   T   M   I   G   E   H   S   I
        Y   C   T   V   N   N   D   E   G   E   W   S   G   P   P   P   E   C
        S   S   P   N   K   C   T   P   P   N   V   E   N   G   I   L   V   S   D   N
        R   S   L   F   S   L   N   E   V   V   E   F   R   C   Q   P   G   F   V   M
        K   G   P   R   R   V   K   C   Q   A   L   N   K   W   E   P   E   L   P   S
        C   S   R   V   C   Q   P   P   P   D   V   L   H   A   E   R   T   Q   R   D
        K   D   N   F   S   P   G   Q   E   V   F   Y   S   C   E   P   G   Y   D   L
        R   G   A   A   S   M   R   C   T   P   Q   G   D   W   S   P   A   A   P   T
        C   E   V   K   S   C   D   D   F   M   G   Q   L   L   N   G   R   V   L   F
        P   V   N   L   Q   L   G   A   K   V   D   F   V   C   D   E   G   F   Q   L
        K   G   S   S   A   S   Y   C   V   L   A   G   M   E   S   L   W   N   S   S
        V   P   V   C   E   Q   I   F   C   P   S   P   P   V   I   P   N   G   R   H
        T   G   K   P   L   E   V   F   P   F   G   K   A   V   N   Y   T   C   D   P
        H   P   D   R   G   T   S   F   D   L   I   G   E   S   T   I   R   C   T   S
        D   P   Q   G   N   G   V   W   S   S   P   A   P   R   C   G   I   L   G   H
        C   Q   A   P   D   H   F   L   F   A   K   L   K   T   Q   T   N   A   S   D
        F   P   I   G   T   S   L   K   Y   E   C   R   P   E   Y   Y   G   R   P   F
        S   I   T   C   L   D   N   L   V   W   S   S   P   K   D   V   C   K   R   K
        S   C   K   T   P   P   D   P   V   N   G   M   V   H   V   I   T   D   I   Q
        V   G   S   R   I   N   Y   S   C   T   T   G   H   R   L   I   G   H   S   S
        A   E   C   I   L   S   G   N   A   A   H   W   S   T   K   P   P   I   C   Q
        R   I   P   C   G   L   P   P   T   I   A   N   G   D   F   I   S   T   N   R
        E   N   F   H   Y   G   S   V   V   T   Y   R   C   N   P   G   S   G   G   R
        K   V   F   E   L   V   G   E   P   S   I   Y   C   T   S   N   D   D   Q   V
        G   I   W   S   G   P   A   P   Q   C   I   I   P   N   K   C   T   P   P   N
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V E N G I L V S D N R S L F S L N E V V
E F R C Q P G F V M K G P R R V K C Q A
L N K W E P E L P S C S R V C Q P P P D
V L H A E R T Q R D K D N F S P G Q E V
F Y S C E P G Y D L R G A A S M R C T P
Q G D W S P A A P T C E V K S C D D F M
G Q L L N G R V L F P V N L Q L G A K V
D F V C D E G F Q L K G S S A S Y C V L
A G M E S L W N S S V P V C E Q I F C P
S P P V I P N G R H T G K P L E V F P F
G K A V N Y T C D P H P D R G T S F D L
I G E S T I R C T S D P Q G N G V W S S
P A P R C G I L G H C Q A P D H F L F A
K L K T Q T N A S D F P I G T S L K Y E
C R P E Y Y G R P F S I T C L D N L V W
S S P K D V C K R K S C K T P P D P V N
G M V H V I T D I Q V
G S R I N Y S C T T G H R L I G H S S
A E C I L S G N A A H W S T K P P I C Q
R I P C G L P P T I A N G D F I S T N R
E N F H Y G S V V T Y R C N P G S G G R
K V F E L V G E P S I Y C T S N D D Q V
G I W S G P A P Q C I I P N K C T P P N
V E N G I L V S D N R S L F S L N E V V
E F R C Q P G F V M K G P R R V K C Q A
L N K W E P E L P S C S R V C Q P P P D
V L H A E R T Q R D K D N F S P G Q E V
F Y S C E P G Y D L R G A A S M R C T P
Q G D W S P A A P T C E V K S C D D F M
G Q L L N G R V L F P V N L Q L G A K V
D F V C D E G F Q L K G S S A S Y C V L
A G M E S L W N S S V P V C E Q I F C P
S P P V I P N G R H T G K P L E V F P F
G K A V N Y T C D P H P D R G T S F D L
I G E S T I R C T S D P Q G N G V W S S
P A P R C G I H H H H H H
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Fig. 9A (Cont.)

Fig 9B
SEQ. ID NO:16

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                    ATGACCGTCGCGCGGCCGAGCGTGCCCGCGGCGCTGCCC
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GACTGTGGCCTTCCCCCAGATGTACCTAATGCCCAGCCAGCTTTGGAAGGCCGTACAAGTTTT
CCCGAGGATACTGTAATAACGTACAAATGTGAAGAAAGCTTTGTGAAAATTCCTGGCGAGAAG
GACTCAGTGATCTGCCTTAAGGGCAGTCAATGGTCAGATATTGAAGAGTTCTGCAATCGTAGC
TGCGAGGTGCCAACAAGGCTAAATTCTGCATCCCTCAAACAGCCTTATATCACTCAGAATTAT
TTTCCAGTCGGTACTGTTGTGGAATATGAGTGCCGTCCAGGTTACAGAAGAGAACCTTCTCTA
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TCACCAAAACTAACTTGCCTTCAGAATTTAAAATGGTCCACAGCAGTCGAATTTTGTAAAAAC
AAATCATGCCCTAATCCGGGAGAAATACGAAATGGTCAGATTGATGTACCAGGTGGCATATTA
TTTGGTGCAACCATCTCCTTCTCATGTAACACAGGGTACAAATTATTTGGCTCGACTTCTAGI
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TATTGTCCAGCACCACCACAAATTGACAATGGAATAATTCAAGGGGAACGTGACCATTATGGA
TATAGACAGTCTGTAACGTATGCATGTAATAAAGGATTCACCATGATTGGAGAGCACTCTATI
TATTGTACTGTGAATAATGATGAAGGAGAGTGGAGTGGCCCACCACCTGAATGC
TCGAGTCCTAACAAATGCACGCCTCCAAATGTGGAAAATGGAATATTGGTATCTGACAAC
AGAAGCTTATTTTCCTTAAATGAAGTTGTGGAGTTTAGGTGTCAGCCTGGCTTTGTCATG
AAAGGACCCCGCCGTGTGAAGTGCCAGGCCCTGAACAAATGGGAGCCGGAGCTACCAAGC
TGCTCCAGGGTATGTCAGCCACCTCCAGATGTCCTGCATGCTGAGCGTACCCAAAGGGAC
AAGGACAACTTTTCACCTGGGCAGGAAGTGTTCTACAGCTGTGAGCCCGGCTACGACCTC
AGAGGGGCTGCGTCTATGCGCTGCACACCCCAGGGAGACTGGAGCCCTGCAGCCCCCACA
TGTGAAGTGAAATCCTGTGATGACTTCATGGGCCAACTTCTTAATGGCCGTGTGCTATTT
CCAGTAAATCTCCAGCTTGGAGCAAAAGTGGATTTTGTTTGTGATGAAGGATTTCAATTA
AAAGGCAGCTCTGCTAGTTACTGTGTCTTGGCTGGAATGGAAAGCCTTTGGAATAGCAGT
GTTCCAGTGTGTGAACAAATCTTTTGTCCAAGTCCTCCAGTTATTCCTAATGGGAGACAC
ACAGGAAAACCTCTGGAAGTCTTTCCCTTTGGAAAAGCAGTAAATTACACATGCGACCCC
CACCCAGACAGAGGGACGAGCTTCGACCTCATTGGAGAGAGCACCATCCGCTGCACAAGT
GACCCTCAAGGGAATGGGGTTTGGAGCAGCCCTGCCCCTCGCTGTGGAATTCTGGGTCAC
TGTCAAGCCCCAGATCATTTTCTGTTTGCCAAGTTGAAAAACCCAAACCAATGCATCTGAC
TTTCCCATTGGGACATCTTTAAAGTACGAATGCCGTCCTGAGTACTACGGGAGGCCATTC
TCTATCACATGTCTAGATAACCTGGTCTGGTCAAGTCCCAAAGATGTCTGTAAACGTAAA
TCATGTAAAACTCCTCCAGATCCAGTGAATGGCATGGTGCATGTGATCACAGACATCCAG
GTTGGATCCAGAATCAACTATTCTTGTACTACAGGGCACCGACTCATTGGTCACTCATCT
GCTGAATGTATCCTCTCGGGCAATGCTGCCCATTGGAGCACGAAGCCGCCAATTTGTCAA
CGAATTCCTTGTGGGCTACCCCCCACCATCGCCAATGGAGATTTCATTAGCACCAACAGA
GAGAATTTTCACTATGGATCAGTGGTGACCTACCGCTGCAATCCTGGAAGCGGAGGGAGA
AAGGTGTTTGAGCTTGTGGGTGAGCCCTCCATATACTGCACCAGCAATGACGATCAAGTG
GGCATCTGGAGCGGCCCGGCCCCTCAGTGCATTATACCTAACAAATGCACGCCTCCAAAT
GTGGAAAATGGAATATTGGTATCTGACAACAGAAGCTTATTTTCCTTAAATGAAGTTGTG
GAGTTTAGGTGTCAGCCTGGCTTTGTCATGAAAGGACCCCGCCGTGTGAAGTGCCAGGCC
CTGAACAAATGGGAGCCGGAGCTACCAAGCTGCTCCAGGGTATGTCAGCCACCTCCAGAT
GTCCTGCATGCTGAGCGTACCCAAAGGGACAAGGACAACTTTTCACCCGGGCAGGAAGTG
TTCTACAGCTGTGAGCCCGGCTATGACCTCAGAGGGGCTGCGTCTATGCGCTGCACACCC
CAGGGAGACTGGAGCCCTGCAGCCCCCACATGTGAAGTGAAATCCTGTGATGACTTCATG
GGCCAACTTCTTAATGGCCGTGTGCTATTTCCAGTAAATCTCCAGCTTGGAGCAAAAGTG
GATTTTGTTTGTGATGAAGGATTTCAATTAAAAGGCAGCTCTGCTAGTTATTGTGTCTTG
GCTGGAATGGAAAGCCTTTGGAATAGCAGTGTTCCAGTGTGTGAACAAATCTTTTGTCCA
AGTCCTCCAGTTATTCCTAATGGGAGACACACAGGAAAACCTCTGGAAGTCTTTCCCTTT
GGAAAAGCAGTAAATTACACATGCGACCCCCACCCAGACAGAGGGACGAGCTTCGACCTC
ATTGGAGAGAGCACCATCCGCTGCACAAGTGACCCTCAAGGGAATGGGGTTTGGAGCAGC
CCTGCCCCTCGCTGTGGAATTCTGGGTCACTGTCAAGCCCCAGATCATTTTCTGTTTGCC
AAGTTGAAAAACCCAAACCAATGCATCTGACTTTCCCATTGGGACATCTTTAAAGTACGAA
TGCCGTCCTGAGTACTACGGGAGGCCATTCTCTATCACATGTCTAGATAACCTGGTCTGG
TCAAGTCCCAAAGATGTCTGTAAACGTAAATCATGTAAAACTCCTCCAGATCCAGTGAAT
GGCATGGTGCATGTGATCACAGACATCCAGGTT
        GGATCCAGAATCAACTATTCTTGTACTACAGGGCACCGACTCATTGGTCACTCATCT
GCTGAATGTATCCTCTCGGGCAATGCTGCCCATTGGAGCACGAAGCCGCCAATTTGTCAA
CGAATTCCTTGTGGGCTACCCCCCACCATCGCCAATGGAGATTTCATTAGCACCAACAGA
GAGAATTTTCACTATGGATCAGTGGTGACCTACCGCTGCAATCCTGGAAGCGGAGGGAGA
```

Fig. 9B (Cont.)

```
R  S  L  F  S  L  N  E  V  V  E  F  R  C  Q  P  G  F  V  M
K  G  P  R  R  V  K  C  Q  A  L  N  K  W  E  P  E  L  P  S
C  S  R  V  C  Q  P  P  P  D  V  L  H  A  E  R  T  Q  R  D
K  D  N  F  S  P  G  Q  E  V  F  Y  S  C  E  P  G  Y  D  L
R  G  A  A  S  M  R  C  T  P  Q  G  D  W  S  P  A  A  P  T
C  E  V  K  S  C  D  D  F  M  G  Q  L  L  N  G  R  V  L  F
P  V  N  L  Q  L  G  A  K  V  D  F  V  C  D  E  G  F  Q  L
K  G  S  S  A  S  Y  C  V  L  A  G  M  E  S  L  W  N  S  S
V  P  V  C  E  Q  I  F  C  P  S  P  P  V  I  P  N  G  R  H
T  G  K  P  L  E  V  F  P  F  G  K  A  V  N  Y  T  C  D  P
H  P  D  R  G  T  S  F  D  L  I  G  E  S  T  I  R  C  T  S
D  P  Q  G  N  G  V  W  S  S  P  A  P  R  C  G  I  L
V  E  S  K  Y  G  P  P  C  P  S  C  P  A  P  E  F  L
G  G  P  S  V  F  L  F  P  P  K  P  K  D  T  L  M  I  S  R
T  P  E  V  T  C  V  V  V  D  V  S  Q  E  D  P  E  V  Q  F
N  W  Y  V  D  G  V  E  V  H  N  A  K  T  K  P  R  E  E  Q
F  N  S  T  Y  R  V  V  S  V  L  T  V  L  H  Q  D  W  L  N
G  K  E  Y  K  C  K  V  S  N  K  G  L  P  S  S  I  E  K  T
I  S  K  A  K  G  Q  P  R  E  P  Q  V  Y  T  L  P  P  S  Q
E  E  M  T  K  N  Q  V  S  L  T  C  L  V  K  G  F  Y  P  S
D  I  A  V  E  W  E  S  N  G  Q  P  E  D  N  Y  K  T  T  P
P  V  L  D  S  D  G  S  F  F  L  Y  S  R  L  T  V  D  K  S
R  W  Q  E  G  N  V  F  S  C  S  V  M  H  E  A  L  H  N  H
Y  T  Q  K  S  L  S  L  S  P  G  K
```

Fig. 11A (Cont.)

Fig. 11B
SEQ. ID NO:20

```
                ATGACCGTCGCGCGGCCGAGCGTGCCCGCGGCGCTGCCC
CTCCTCGGGGAGCTGCCCCGGCTGCTGCTGCTGGTGCTGTTGTGCCTGCCGGCCGTGTGGGGT
GACTGTGGCCTTCCCCCAGATGTACCTAATGCCCAGCCAGCTTTGGAAGGCCGTACAAGTTTT
CCCGAGGATACTGTAATAACGTACAAATGTGAAGAAAGCTTTGTGAAAATTCCTGGCGAGAAG
GACTCAGTGATCTGCCTTAAGGGCAGTCAATGGTCAGATATTGAAGAGTTCTGCAATCGTAGC
TGCGAGGTGCCAACAAGGCTAAATTCTGCATCCCTCAAACAGCCTTATATCACTCAGAATTAT
TTTCCAGTCGGTACTGTTGTGGAATATGAGTGCCGTCCAGGTTACAGAAGAGAACCTTCTCTA
TCACCAAAACTAACTTGCCTTCAGAATTTAAAATGGTCCACAGCAGTCGAATTTTGTAAAAAG
AAATCATGCCCTAATCCGGGAGAAATACGAAATGGTCAGATTGATGTACCAGGTGGCATATTA
TTTGGTGCAACCATCTCCTTCTCATGTAACACAGGGTACAAATTATTTGGCTCGACTTCTAGT
TTTTGTCTTATTTCAGGCAGCTCTGTCCAGTGGAGTGACCCGTTGCCAGAGTGCAGAGAAATT
TATTGTCCAGCACCACCACAAATTGACAATGGAATAATTCAAGGGAACGTGACCATTATGGA
TATAGACAGTCTGTAACGTATGCATGTAATAAAGGATTCACCATGATTGGAGAGCACTCTATT
TATTGTACTGTGAATAATGATGAAGGAGAGTGGAGTGGCCCACCACCTGAATGC
TCGAGTCCTAACAAATGCACGCCTCCAAATGTGGAAAATGGAATATTGGTATCTGACAAC
AGAAGCTTATTTTCCTTAAATGAAGTTGTGGAGTTTAGGTGTCAGCCTGGCTTTGTCATG
AAAGGACCCCGCCGTGTGAAGTGCCAGGCCCTGAACAAATGGGAGCCGGAGCTACCAAGC
TGCTCCAGGGTATGTCAGCCACCTCCAGATGTCCTGCATGCTGAGCGTACCCAAAGGGAC
AAGGACAACTTTTCACCTGGGCAGGAAGTGTTCTACAGCTGTGAGCCCGGCTACGACCTC
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AGAGGGGCTGCGTCTATGCGCTGCACACCCCAGGGAGACTGGAGCCCTGCAGCCCCCACA
TGTGAAGTGAAATCCTGTGATGACTTCATGGGCCAACTTCTTAATGGCCGTGTGCTATTT
CCAGTAAATCTCCAGCTTGGAGCAAAAGTGGATTTTGTTTGTGATGAAGGATTTCAATTA
AAAGGCAGCTCTGCTAGTTACTGTGTCTTGGCTGGAATGGAAAGCCTTTGGAATAGCAGT
GTTCCAGTGTGTGAACAAATCTTTTGTCCAAGTCCTCCAGTTATTCCTAATGGGAGACAC
ACAGGAAAACCTCTGGAAGTCTTTCCCTTTGGAAAAGCAGTAAATTACACATGCGACCCC
CACCCAGACAGAGGGACGAGCTTCGACCTCATTGGAGAGAGCACCATCCGCTGCACAAGT
GACCCTCAAGGGAATGGGGTTTGGAGCAGCCCTGCCCCTCGCTGTGGAATTCTG
GTTGAGTCCAAATATGGTCCCCCATGCCCATCATGCCCAGCACCTGAGTTCCTG
GGGGGACCATCAGTCTTCCTGTTCCCCCCAAAACCCAAGGACACTCTCATGATCTCCCGG
ACCCCTGAGGTCACGTGCGTGGTGGTGGACGTGAGCCAGGAAGACCCCGAGGTCCAGTTC
AACTGGTACGTGGATGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAG
TTCAACAGCACGTACCGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAAC
GGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGGCCTCCCGTCCTCCATCGAGAAAACC
ATCTCCAAAGCCAAAGGGCAGCCCCGAGAGCCACAGGTGTACACCCTGCCCCCATCCCAG
GAGGAGATGACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTACCCCAGC
GACATCGCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGGACAACTACAAGACCACGCCT
CCCGTGCTGGACTCCGACGGCTCCTTCTTCCTCTACAGCAGGCTAACCGTGGACAAGAGC
AGGTGGCAGGAGGGGAATGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCAC
TACACACAGAAGAGCCTCTCCCTGTCTCCGGGTAAATGATAAAGATCT

Fig. 11B (Cont.)

Fig. 12A
SEQ. ID NO:21
ATA TAC GAA TTC TGG GTC ACT GTG AGG AGC CAC CAA CAT TTG AAG C

Fig. 12B
SEQ. ID NO:22
ACA GTG AGA TCT TTA GTG ATG GTG ATG GTG ATG CGA CAC TTT AAG ACA CTT
TGG AAC

Fig. 13A
SEQ. ID NO:23

M	T	V	A	R	P	S	V	P	A	A	L	P
L	L	G	E	L	P	R	L	L	L	L	V	L	L	C	L	P	A	V	W	G
D	C	G	L	P	P	D	V	P	N	A	Q	P	A	L	E	G	R	T	S	F
P	E	D	T	V	I	T	Y	K	C	E	E	S	F	V	K	I	P	G	E	K
D	S	V	I	C	L	K	G	S	Q	W	S	D	I	E	E	F	C	N	R	S
C	E	V	P	T	R	L	N	S	A	S	L	K	Q	P	Y	I	T	Q	N	Y
F	P	V	G	T	V	V	E	Y	E	C	R	P	G	Y	R	R	E	P	S	L
S	P	K	L	T	C	L	Q	N	L	K	W	S	T	A	V	E	F	C	K	K
K	S	C	P	N	P	G	E	I	R	N	G	Q	I	D	V	P	G	G	I	L
F	G	A	T	I	S	F	S	C	N	'T	G	Y	K	L	F	G	S	T	S	S
F	C	L	I	S	G	S	S	V	Q	W	S	D	P	L	P	E	C	R	E	I

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Y  C  P  A  P  P  Q  I  D  N  G  I  I  Q  G  E  R  D  H  Y  G
Y  R  Q  S  V  T  Y  A  C  N  K  G  F  T  M  I  G  E  H  S  I
Y  C  T  V  N  N  D  E  G  E  W  S  G  P  P  P  E  C
S  S  P  N  K  C  T  P  P  N  V  E  N  G  I  L  V  S  D  N
R  S  L  F  S  L  N  E  V  V  E  F  R  C  Q  P  G  F  V  M
K  G  P  R  R  V  K  C  Q  A  L  N  K  W  E  P  E  L  P  S
C  S  R  V  C  Q  P  P  P  D  V  L  H  A  E  R  T  Q  R  D
K  D  N  F  S  P  G  Q  E  V  F  Y  S  C  E  P  G  Y  D  L
R  G  A  A  S  M  R  C  T  P  Q  G  D  W  S  P  A  A  P  T
C  E  V  K  S  C  D  D  F  M  G  Q  L  L  N  G  R  V  L  F
P  V  N  L  Q  L  G  A  K  V  D  F  V  C  D  E  G  F  Q  L
K  G  S  S  A  S  Y  C  V  L  A  G  M  E  S  L  W  N  S  S
V  P  V  C  E  Q  I  F  C  P  S  P  P  V  I  P  N  G  R  H
T  G  K  P  L  E  V  F  P  F  G  K  A  V  N  Y  T  C  D  P
H  P  D  R  G  T  S  F  D  L  I  G  E  S  T  I  R  C  T  S
D  P  Q  G  N  G  V  W  S  S  P  A  P  R  C  G  I  L  G  H
C  E  E  P  P  T  F  E  A  M  E  L  I  G  K  P  K  P  Y  Y
E  I  G  E  R  V  D  Y  K  C  K  K  G  Y  F  Y  I  P  P  L
A  T  H  T  I  C  D  R  N  H  T  W  L  P  V  S  D  D  A  C
Y  R  E  T  C  P  Y  I  R  D  P  L  N  G  Q  A  V  P  A  N
G  T  Y  E  F  G  Y  Q  M  H  F  I  C  N  E  G  Y  Y  L  I
G  E  E  I  L  Y  C  E  L  K  G  S  V  A  I  W  S  G  K  P
P  I  C  E  K  V  L  C  T  P  P  P  K  I  K  N  G  K  H  T
F  S  E  V  E  V  F  E  Y  L  D  A  V  T  Y  S  C  D  P  A
P  G  P  D  P  F  S  L  I  G  E  S  T  I  Y  C  G  D  N  S
V  W  S  R  A  A  P  E  C  K  V  V  K  C  R  F  P  V  V  E
N  G  K  Q  I  S  G  F  G  K  K  F  Y  Y  K  A  T  V  M  F
E  C  D  K  G  F  Y  L  D  G  S  D  T  I  V  C  D  S  N  S
T  W  D  P  P  V  P  K  C  L  K     V  S     H  H  H  H  H  H
```

Fig. 13A (Cont.)

Fig. 13B

SEQ. ID NO:24

```
ATGACCGTCGCGCGGCCGAGCGTGCCCGCGGCGCTGCCC
CTCCTCGGGGAGCTGCCCCGGCTGCTGCTGCTGGTGCTGTTGTGCCTGCCGGCCGTGTGGGGT
GACTGTGGCCTTCCCCCAGATGTACCTAATGCCCAGCCAGCTTTGGAAGGCCGTACAAGTTTT
CCCGAGGATACTGTAATAACGTACAAATGTGAAGAAAGCTTTGTGAAAATTCCTGGCGAGAAG
GACTCAGTGATCTGCCTTAAGGGCAGTCAATGGTCAGATATTGAAGAGTTCTGCAATCGTAGC
TGCGAGGTGCCAACAAGGCTAAATTCTGCATCCCTCAAACAGCCTTATATCACTCAGAATTAT
TTTCCAGTCGGTACTGTTGTGGAATATGAGTGCCGTCCAGGTTACAGAAGAGAACCTTCTCTA
TCACCAAAACTAACTTGCCTTCAGAATTTAAAATGGTCCACAGCAGTCGAATTTTGTAAAAAG
AAATCATGCCCTAATCCGGGAGAAATACGAAATGGTCAGATTGATGTACCAGGTGGCATATTA
TTTGGTGCAACCATCTCCTTCTCATGTAACACAGGGTACAAATTATTTGGCTCGACTTCTAGT
TTTTGTCTTATTTCAGGCAGCTCTGTCCAGTGGAGTGACCCGTTGCCAGAGTGCAGAGAAATT
TATTGTCCAGCACCACCACAAATTGACAATGGAATAATTCAAGGGGAACGTGACCATTATGGA
TATAGACAGTCTGTAACGTATGCATGTAATAAAGGATTCACCATGATTGGAGAGCACTCTATT
TATTGTACTGTGAATAATGATGAAGGAGAGTGGAGTGGCCCACCACCTGAATGC
TCGAGTCCTAACAAATGCACGCCTCCAAATGTGGAAAATGGAATATTGGTATCTGACAAC
AGAAGCTTATTTTCCTTAAATGAAGTTGTGGAGTTTAGGTGTCAGCCTGGCTTTGTCATG
```

AAAGGACCCCGCCGTGTGAAGTGCCAGGCCCTGAACAAATGGGAGCCGGAGCTACCAAGC
TGCTCCAGGGTATGTCAGCCACCTCCAGATGTCCTGCATGCTGAGCGTACCCAAAGGGAC
AAGGACAACTTTTCACCTGGGCAGGAAGTGTTCTACAGCTGTGAGCCCGGCTACGACCTC
AGAGGGGCTGCGTCTATGCGCTGCACACCCCAGGGAGACTGGAGCCCTGCAGCCCCCACA
TGTGAAGTGAAATCCTGTGATGACTTCATGGGCCAACTTCTTAATGGCCGTGTGCTATTT
CCAGTAAATCTCCAGCTTGGAGCAAAAGTGGATTTTGTTTGTGATGAAGGATTTCAATTA
AAAGGCAGCTCTGCTAGTTACTGTGTCTTGGCTGGAATGGAAAGCCTTTGGAATAGCAGT
GTTCCAGTGTGTGAACAAATCTTTTGTCCAAGTCCTCCAGTTATTCCTAATGGGAGACAC
ACAGGAAAACCTCTGGAAGTCTTTCCCTTTGGAAAAGCAGTAAATTACACATGCGACCCC
CACCCAGACAGAGGGACGAGCTTCGACCTCATTGGAGAGAGCACCATCCGCTGCACAAGT
GACCCTCAAGGGAATGGGGTTTGGAGCAGCCCTGCCCCTCGCTGTGGAATTCTGGGTCAC
TGTGAGGAGCCACCAACATTTGAAGCTATGGAGCTCATTGGTAAACCAAAACCCTACTAT
GAGATTGGTGAACGAGTAGATTATAAGTGTAAAAAAGGATACTTCTATATACCTCCTCTT
GCCACCCATACTATTTGTGATCGGAATCATACATGGCTACCTGTCTCAGATGACGCCTGT
TATAGAGAAACATGTCCATATATACGGGATCCTTTAAATGGCCAAGCAGTCCCTGCAAAT
GGGACTTACGAGTTTGGTTATCAGATGCACTTTATTTGTAATGAGGGTTATTACTTAATT
GGTGAAGAAATTCTATATTGTGAACTTAAAGGATCAGTAGCAATTTGGAGCGGTAAGCCC
CCAATATGTGAAAAGGTTTTGTGTACACCACCTCCAAAAATAAAAAATGGAAAACACACC
TTTAGTGAAGTAGAAGTATTTGAGTATCTTGATGCAGTAACTTATAGTTGTGATCCTGCA
CCTGGACCAGATCCATTTTCACTTATTGGAGAGAGCACGATTTATTGTGGTGACAATTCA
GTGTGGAGTCGTGCTGCTCCAGAGTGTAAAGTGGTCAAATGTCGATTTCCAGTAGTCGAA
AATGGAAAACAGATATCAGGATTTGGAAAAAAATTTTACTACAAAGCAACAGTTATGTTT
GAATGCGATAAGGGTTTTTACCTCGATGGCAGCGACACAATTGTCTGTGACAGTAACAGT
ACTTGGGATCCCCCAGTTCCAAAGTGTCTTAAA//GTGTCG//CATCACCATCACCATCAC
TAAAGATCT

Fig. 13B (Cont.)